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Taxonomic notes on Neotropical Anthidiini, with description of the male of *Chrisanthidium adornatum* Urban (Hymenoptera: Megachilinae)*

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Abstract

The taxonomy of *Allanthidium* Moure, *Anthidianum* Michener, *Chrisanthidium* Urban, and *Notanthidium* Isensee is discussed. A key to distinguish these genera is presented. Keys to *Anthidianum* and *Chrisanthidium* species are provided; *Anthidianum bizonatum* (Friese) is reinstated as a valid species and the male of *Chrisanthidium adornatum* is described.

Key words: Apoidea, bee, key, South America

Introduction

The tribe Anthidiini has worldwide distribution, and in the neotropics is represented by 38 genera (Urban & Moure 2007). Many of these groups have been studied, leading to descriptions and reorganizations of genera and subgenera. Urban (1991, 1995, 1997, 1999, 2001, 2003) described new taxa and gave genus status to several groups previously treated as subgenera by other authors (Griswold & Michener 1988; Michener 1948; Toro & Rodríguez 1998; Michener & Griswold 1994). Michener (2000, 2007) presented a classification in which many groups treated as genera by Urban (references listed above) are treated as subgenera. The generic classification of this tribe is still controversial, as there is no consensus whether diagnostic features of described taxa are indicative of generic or subgeneric rank. More comprehensive studies on the taxonomy of the genera are necessary to establish a sound classification for the group. A phylogenetic analysis of the relationships among Neotropical representatives of the tribe is underway.

The genera *Allanthidium*, *Anthidianum*, *Chrisanthidium* and *Notanthidium* are exclusively Neotropical, occurring in Chile, Argentina and Bolivia. Urban (1997) suggested that *Anthidianum*, *Chrisanthidium* and *Notanthidium* may be related groups, as all have arolia in both sexes, but this is a non informative character as many groups of the tribe share this same condition. Michener (2000, 2007) discussed that modifications on the clypeus and mandibles of the females of *Notanthidium* are not justified diagnostic features for taxa with genus rank. Therefore, he considered *Chrisanthidium* and *Allanthidium* as subgenera of *Notanthidium*, and *Anthidianum* as a junior synonym of *Allanthidium*. However, there are no synapomorphies that justify these synonymies. The study of these groups is necessary since they have been given different taxonomic status by different authors (Moure 1947, Michener 1948, Urban, 1997, Toro & Rodríguez 1998, Michener 2000).

The key provided by Michener (2000, 2007) lists incorrect characters for the subgenera of *Notanthidium*. The key indicates that a carinate omaulus and five-toothed mandible in females are diagnostic for the subgenus *N*. (*Chrisanthidium*); and a rounded omaulus and four-toothed mandible of females for the subgenus *N*. (*Allanthidium*). These features were somehow switched. *Chrisanthidium* lacks a carinate omaulus and the female mandible has four teeth, while *Allanthidium* has a carinate omaulus and the mandible of females has five teeth. The synonymy of *Anthidianum* with *Allanthidium*, based on characters provided by Michener

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